☑ElectioNet™

State of New Jersey Office of the Attorney General Division of Elections

Data Conversion Programs for the Statewide Voter Registration System (SVRS)

NEW JERSEY

Deliverable SVRS 053

Presented to:
Michael Gallagher
SVRS Project Manager
Department of Law and Public Safety
Trenton, New Jersey

Presented by:
Covansys Corporation
32605 West 12 Mile Road
Farmington Hills, MI 48334

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Revision History

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1.0 INTRODUCTION

Data Conversion Programs Overview

While traditional in-house conversion methods often use ETL tools and/or SQL/ "C" scripts to accomplish manipulation of source to target data processes, the Covansys conversion method employs the Aradyme Dynamic- Schema Engine and as well, the Aradyme services associated therewith. The Aradyme Engine, composed of tools and the API are priority in nature and in order to protect that intellectual property, this document will provide the inputs and outputs of source data and depict the Aradyme Conversion Engine as a "black box". In essence, while some sample code will be provided, the actual source of these propriety programs will not.

Conversion tool sets and the corresponding code specific to a given tool set are an existing part of the Aradyme Conversion Engine and are modified to meet the requirements of a given source file and input data format. The specific methods, plug-ins pertaining thereto and associated programs currently existing in the Aradyme Conversion Engine may be categorized as follows:

- Data Extraction - Bulk Importing
- Automated Map to Common Format
- Rules Processing in the Common Format
- Exception Reporting
- Quality Assurance Gates
- Audit & Control Reports

In evidence that the Data Conversion Engine, corresponding plug-ins, and programs are completed, functional and capable of supporting the full conversion of legacy data to the ElectioNet application, the following legacy data accomplishments from all counties have be realized

- Data analyzed at the county input file level
- Inventory Reports Generated and submitted to all countess
- Mapped to common format
- Extracted from individual county source files
- Imported to Common
- Exceptions Reports generated for all counties

Data Conversion Programs - Living by Nature

As the application comes more into focus, so does the need to modify legacy data during conversion time per a defined rule set that matures over the duration of the development phase of the project. In essence, the tools, companion plug-and associated programs must evolve to meet user requirements. While this deliverable is an overview of those priority conversion plug-ins, scripts and programs, these tools and corresponding code sets will be modified to reflect the requirements as further defined throughout the project lifecycle.

2.0 DATA CONVERSION TOOLS, PLUG-INS & PROGRAMS

Data Extraction - Bulk Importing

The Aradyme tool set includes a propriety Extraction/Transfer/Load program that, similar to other ETL products, provides the wherewith all not only to Map source to target, but also generate information related to the source of data as to the properties of the given data objects. Since the size of output for this conversion output is as such that a full view cannot be presented in this document, a sample of same has been included in the zip file in which this document is contained and thus may be view in entirety by clicking on the icon contained in Appendix A.

Automated Map to Common Format

One of the more advanced forms of data conversion employs the "Map to Common" method. Products generated by the Conversion Engine and associated tools sets are contained in Appendices B through J.

Exception Reporting – All Pull 1 Reports Disseminated

County Name	Current System Vendor	Initial Pull Data Attained	Exception Report
Essex	Sequoia RISK	5/31/05	6/3/2005
Union	NTS - FoxPro	4/11/05	5/23/05
Middlesex	ES&S - FoxPro	4/11/05	5/23/05
Mercer	Sequoia RISK	5/10/05	5/23/05
Gloucester	Sequoia RISK	6/1/05	6/3/05
Ocean	Sequoia Integrity	*4/27/05	5/23/05
Burlington	Custom - Access	4/14/05	5/27/05
Camden	Sequoia Integrity	*4/27/05	5/27/05
Hunterdon	Custom - Lotus	4/13/05	5/27/05
Monmouth	Custom - SQL	4/27/05	6/3/05
Cape May	Sequoia Integrity	5/13/05	5/27/05
Atlantic	Sequoia Integrity	5/11/05	5/27/05
Salem	Sequoia Integrity	5/11/05	5/27/05
Cumberland	Sequoia Integrity	5/11/05	5/27/05
Somerset	Custom - Access	4/28/05	6/14/2005
Sussex	Sequoia RISK	5/20/05	6/3/05
Warren	ES&S - Oracle	4/26/05	6/3/05
Morris	NTS - FoxPro	4/28/05	6/3/05
Hudson	Sequoia Integrity	5/4/05	5/27/05
Bergen	AS400 - EBCDIC	5/10/05	6/14/2005
Passaic	System 36 - EBCDIC	5/11/05	6/14/2005
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Quality Assurance Gates

Propriety processes and programs have been developed to interrogate data, from a structural view, contained in the Conversion Engine database environment. In essence, prior to passing this QA Gate commonly referred to as Gate 0, the following ElectioNet structural aspects of the conversion are reviewed and findings related to the following broad data anomalies are listed below

- Tables not or improperly populated
- Linkage anomalies between tables
- Table and data mismatches
- Field Content mismatches

While these Quality Gate programs and scripts were refined and made into a tool set employed in the Conversion Engine a sample of the actual beta code is included as part of this deliverable. .

Audit & Control Reports

As indicated in the Bulk Importer Section of this document, base record counts and associated audit & control "values" are being captured from county source data in order to fuel the A&C process. The Bulk Importer will be used to collect "final" county source numbers in Pull three subsequent to county staff cleanse activities. Reviewers of this document may access an example of the output from the Bulk Importer by clicking on the Icon contained in Appendix A.

As part of the Aradyme Engine, and A&C tool set with corresponding programs produce the following before and after comparisons between Pull 3 values and the final conversion (go-live) counts for each individual county:

- Total number of voter registration records in the database,
- Total number of registered voters in the database,
- Total number of registered voters in each of the counties,
- Total number of voters by county precinct/tax code area in each county
- Total number of male, female, and undesignated registered voters in each of the counties,
- Total number of registered voters in various cities and towns,
- Registered voters in various districts,
- Registered voters voting in various prior elections in various counties,
- Registered voters serving as election workers in various counties,
- Registered voters living on various streets, street types in various counties' address libraries,
- Streets in various counties' address libraries, and
- Signatures clips and/or images attached to at to-be defined number of voter registration records in the post conversion engine cycle (converted database).

3.0 APPENDICIES

Appendix A – Bulk Import (Output – Sample)

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Appendix B – Integrity Source to Common Format Program Output

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Appendix C – RISC Source to Common Format Program Output

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Appendix D – NTS Source to Common Format Program Output

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Appendix E – Somerset Source to Common Format Program Output

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Appendix F– Hunterdon Source to Common Format Program Output

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Appendix G – ESS Source to Common Format Program Output

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Appendix H – Burlington Source to Common Format Program Output

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Appendix I – Middlesex Source to Common Format Program Output

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Appendix J – EBCDIC Source to Common Format Program Output

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Appendix K – Audit & Control Sample Code

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